

223
MAT ~~223~~ Homework #8

①

1. $20 \cdot 20 \cdot 19 \cdot 20 = 152,000$

2. $14 \cdot 5 \cdot 3 \cdot 2 = 420$

3. $\frac{15 \cdot 12 \cdot 2}{35 \cdot 34} = \frac{36}{119}$

4. $3 \times (31 + 31 \times 31 + 31 \times 31 \times 31) = 92,349$

5. $12P10 = 239,500,800$

6. $14! = 8.7178 \times 10^{10}$

7. $20C3 = 1140$

8. $\frac{13!}{2!2!} = 1,556,755,200$

9. $15C3 = 455$

10. $\frac{16!}{5!3!4!4!} = 50,450,400$

11. $23C16 = 245,157$

12. $8P3 = 56$

13. $22C5 = 26,334$

14. $\frac{12!}{4!3!} = 3,326,400$

15. $\frac{33!}{5!10!7!11!} = 9.9 \times 10^{16}$

16. ABC, ACB, BAC, BCA, CAB, CBA

17. ABCD

18. $\frac{1 \cdot 24C2}{25C3} = .12$

19. $\frac{13(4C2)(48C3)}{52C5} = .5190876...$

20. $\frac{13(4C2)12(4C2)44}{52C5} = .095078$

21. $\frac{13(4C3)(48C2)}{52C5} = .022569$

22. $\frac{13(4C3)12(4C2)}{52C5} = .00144...$

23. $\frac{13(4C3)12(4C2)(44C2)}{52C7} = .02647...$

24. whether repetition is allowed.
whether order matters